

## **REMARKS**

This paper is submitted as a full and complete response to the Office Action dated September 7, 2010. The Examiner is respectfully requested to give due reconsideration to this application, to indicate the allowability of the claims, and to pass this case to issue.

### **Remarks Regarding Examiner Interview**

Applicants and Applicants' representatives thank Examiner Mi and Examiner McKelvey for their courtesy in participating in an in-person Examiner Interview on or about March 17, 2011. Applicants amend claim 1 herein consistent with the discussion of the Examiner Interview.

### **Status Of The Claims**

Claims 1-9, 12-14, 17 and 21-23 are pending and under consideration in this application. Claim 1 is the only independent claim. Claims 1, 2, 4-9, 12-14 and 17 are amended herein. Claims 21-23 are newly added. Please cancel claims 10-11, 15-16 and 18-20 without prejudice or disclaimer. No new matter is added.

### **Response to Claim Rejections Under 35 U.S.C. § 103(a)**

Claims 1-20 stand rejected under 35 U.S.C. § 103(a) over Siren *et al.* (U.S. 4,777,134; "Siren '134") in view of Siren *et al.* (U.S. 4,797,390; "Siren '390") and further in view of Vanderbeke *et al.* (U.S. 5,554,399; "Vanderbeke"). Applicants respectfully traverse these rejections. Applicants also assert that the rejections of claims 10-11, 15-16 and 18-20 are moot in view of the cancellation of these claims. Additionally, Applicants respectfully assert that these rejections are moot in view of the amendment of the claims herein and requests the withdrawal of all rejections under 35 U.S.C. § 103(a).

Amended independent claim 1 recites:

1. (Currently amended) A process for producing inositol from plant materials, comprising the steps of:
  - providing a plant material comprising at least one of a phytate and a phytin;
  - said plant material also comprising a neutral soluble sugar;
  - providing an aqueous slurry of said plant material;
  - said aqueous slurry comprising said at least one of a phytate and a phytin of said plant material, as well as said neutral soluble sugar of said plant material;
  - treating said aqueous slurry with an enzyme product enriched in phytase enzyme;
  - conducting a partial hydrolysis of said at least one of a phytate and a phytin to produce a partially hydrolyzed slurry comprising a mixture of inositol phosphates which are negatively charged, and wherein said plant material is a main source of the phytate and/or phytin which is partially hydrolyzed during said step of conducting a partial hydrolysis;
  - separating said partially hydrolyzed slurry to produce a water soluble fraction and a water-insoluble fraction, said water soluble fraction comprising inositol phosphates which are negatively charged, as well said neutral soluble sugar of said plant material;
  - separating said water soluble fraction into a first ionic fraction comprising inositol phosphates which are negatively charged and a first neutral fraction comprising said neutral soluble sugar of said plant material;
  - conducting a hydrolysis of said inositol phosphates of said first ionic fraction to produce inositol and an anionic fraction; and
  - separating said inositol from said anionic fraction.

Applicants respectfully assert that claim 1, and the claims depending therefrom, are distinguished over the cited documents.

*Cited Documents Do Not Teach Or Suggest  
Applicants' Claim Recitations*

As discussed during the Examiner interview, Applicants respectfully assert that the cited documents do not teach or suggest the claimed raw materials or process steps. Applicants claim a raw material feed to the process of:

“providing a plant material comprising at least one of a phytate and a phytin;  
said plant material also comprising a neutral soluble sugar”.

Not only is this feed not disclosed by the cited documents, but it is in sharp contrast to the “sodium phytate” from “Sigma Chemical Co” [9/44-45] disclosed by Siren ‘134. Applicants further claim:

“wherein said plant material is a main source of the phytate and/or phytin which is partially hydrolyzed during said step of conducting a partial hydrolysis”.

Applicants respectfully assert that the laboratory experiment of Siren ‘134 would be inoperable given Applicants’ claimed feed criteria.

Moving downstream to the claim 1 claimed partial hydrolysis step, Applicants claim:

“treating said aqueous slurry with an enzyme product enriched in phytase enzyme;  
conducting a partial hydrolysis of said at least one of a phytate and a phytin to produce a partially hydrolyzed slurry comprising a mixture of inositol phosphates which are negatively charged, and wherein said plant material is a main source of the phytate and/or phytin which is partially hydrolyzed during said step of conducting a partial hydrolysis”.

Applicants respectfully assert that none of the cited documents teach or suggest treating an aqueous slurry as recited in claim 1 with “an enzyme product enriched in phytase enzyme” to “produce a partially hydrolyzed slurry comprising a mixture of inositol phosphates which are negatively charged” as recited in claim 1.

Further, none of the cited documents teach or suggest Applicants’ claimed inositol recovery process steps, *e.g.*,

“separating said partially hydrolyzed slurry to produce a water soluble fraction and a water-insoluble fraction, said water soluble fraction comprising inositol phosphates which are negatively charged, as well said neutral soluble sugar of said plant material;

separating said water soluble fraction into a first ionic fraction comprising inositol phosphates which are negatively charged and a first neutral fraction comprising said neutral soluble sugar of said plant material;

conducting a hydrolysis of said inositol phosphates of said first ionic fraction to produce inositol and an anionic fraction; and

separating said inositol from said anionic fraction.”

In view of the above, Applicants respectfully assert that the cited documents do not teach or suggest a number of recitations of claim 1.

*Applicants' Claims Solve A Different Problem Than The Cited documents & The Cited documents Teach Away From Applicants' Claims*

Applicants' claims achieve a solution to the “problematic” (orig. spec. page 1, line 14) separation of inositol from carbohydrates from a slurry. Claim 1 recites the separation of a “neutral sugar from said plant material” wherein said “plant material” is:

“a plant material comprising at least one of a phytate and a phytin;

said plant material also comprising a neutral soluble sugar”.

Siren ‘134 does not disclose plant material as claimed by Applicants (claim 1) as a possible raw material for manufacturing IP3. Instead, as discussed above, Siren ‘134 discloses “sodium phytate” from “Sigma Chemical Co” [9/44-45] as a starting material in the “production of IP3” 1/65.

Siren ‘134 further teaches away because it serves a purpose different from the claims of Applicants herein. Because Siren ‘134 relates to producing IP3 from “sodium phytate” from “Sigma Chemical Co” [9/44-45], Siren ‘134 does not teach or suggest solving the problems relating to “a plant material” (claim 1) as claimed by Applicants. Siren ‘134 simply did not encounter or try to solve the problem solved by Applicants' claims.

Likewise, Siren ‘390 regards obtaining “as high a level of IP3 as possible” 4/20 while teaching that “the composition can be free of . . . IP1, IP2, IP4, IP5 and IP6” 5/24-25 [Note: IP3 is not included in the preceding “free of” list of Siren ‘390]. Moreover, Siren ‘390 also does not

disclose “a plant material comprising at least one of a phytate and a phytin; said plant material also comprising a neutral soluble sugar” (claim 1) as claimed by Applicants as a possible starting material. As with Siren ‘134, Siren ‘390 instead also discloses use of sodium phytate from Sigma Chemical Co.

Applicants respectfully assert that Vanderbeke does not rectify the deficiencies in disclosure of Siren ‘134 and/or ‘390.

#### *Applicants’ Claims Distinguish Over The Cited documents*

In view of the above, Applicants respectfully assert that the pending claims 1-20 are distinguished over the cited documents.

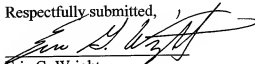
As discussed above, Applicants respectfully assert that none of the cited documents disclose, teach or suggest all elements of any of pending claims 1-9, 12-14 and 17. Applicants respectfully assert that none of the cited documents (*i.e.*, Siren 1, Siren 2 and Vanderbeke) whether considered separately, or in combination, teach or suggest all claimed elements of claims 1-9, 12-14 and 17. Additionally, at the time the invention was made, one of ordinary skill in the art could not and would not achieve all the features as recited in any of claims 1-9, 12-14 and 17. In view of the deficiencies of the cited documents, no likelihood of success in practicing Applicants’ claims exists upon combination of any of the cited documents. Thus, no *prima facie* case of obviousness under 35 U.S.C. § 103(a) exists. Applicants respectfully request the withdrawal of all rejections under 35 U.S.C. § 103(a) and the allowance of this application.

#### Conclusion

In view of the above, Applicants respectfully request early and favorable action with regard to the present application, and a Notice of Allowance for all pending claims is earnestly solicited.

Should there be any outstanding issues requiring discussion which would further the prosecution and allowance of the above-captioned application, the Examiner is invited to contact the Applicants' undersigned representative at the address and telephone number indicated below.

Respectfully submitted,



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